

Jackson Street Shops,  
Engine House  
Jackson Street, Pennsylvania Avenue  
St. Paul  
Ramsey County  
Minnesota

HABS No. MN-67-K

HABS  
MINN,  
62-SAIPA,  
17-K-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey  
National Park Service  
Rocky Mountain Regional Office  
Department of the Interior  
P.O. Box 25287  
Denver, Colorado 80225

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HISTORIC AMERICAN BUILDINGS SURVEY

JACKSON STREET SHOPS, ENGINE HOUSE

HABS No. MN-67-K

Location: Jackson Street and Pennsylvania Avenue  
St. Paul, Ramsey County, Minnesota

USGS St. Paul East Quadrangle, Universal  
Transverse Mercator Coordinates: Zone 15;  
491920.4878640; 492560.4878640; 492560.4878540;  
492300.487540; 492140.4878400; 491920.4878400

Present Owner: Minnesota Transportation Museum.  
Gayle Bromander, President  
2872 N.W. 18th Street  
New Brighton, Minnesota 55112

Present Occupant/Use: Vacant. (Note: Mail sorting equipment which  
belongs to the Post office who leased the space  
from the previous owner remains on the premises.)

Significance: The Engine House, a repair facility for  
locomotives, along with the rest of the Jackson  
Street shops is significant to the development of  
James J. Hill's Great Northern Railroad. As a  
group, they are the city's oldest known railroad  
shop complex. In its early alterations, this  
building reflects the advent of the diesel engine  
and its application to railroading as the  
original structure was extended to accommodate  
the longer diesel locomotives.

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: The original Engine house was constructed in 1907. (Permits issued 10/31/1906, #47006 and #47007.)
2. Architects: The architect for the original structure and several revisions was Samuel L. Bartlett; George Hayes was the architect responsible for changes from 1947-1957. No plans were found for revisions after 1958 and the architect(s) for changes after that time is unknown.
3. Original and subsequent owners:  
Great Northern Railroad, original owner  
Burlington Northern Railroad  
George Rutman, STAVOCO Industries  
Minnesota Transportation Museum, Inc.

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4. Builder, contractor: The contractor for the original foundation was Fred Alther and the contractor for the original structure is listed on the building permit as Newman and Hoy. (Permit #47006 for \$35,000 and #47007 for \$42,000 respectively.) Note: building permits for revisiona to the structure after 1906 were not found.
5. Original plans and construction: The original plans and additions up to 1958 are on file at the Great Northern Historical Society and the Burlington Northern Railroad Company. The original structure was a semi-circular building housing twenty-five locomotive repair stalls with a turntable occupying the center area. Additions to the building make it difficult to define the resulting configuration.
6. Alterations and additions: Notations at the bottom of plans indicate changes made to the atructure through the years as follows:

Revisions on drawing #8381-2

March 5, 1918: Pit covers over pits 6, 7, 8 and smokejack weight guards added as built.  
April 27, 1925: (E.T.R.) extended 5 stalls 16' to 20' (Dec. 1923 A.F.E. 24212).  
April 27, 1925: (E.T.R.) installed trailer drop pit (Jan. 1925 A.F.E. 26720).  
April 27, 1925: (E.T.R.) installed door opening for toilet passage (Dec. 1924 A.F.E. 26172).  
April 27, 1925: (E.T.R.) installed door opening for tank hose (July 1924 A.F.E. 24964).  
August 24, 1928: (W.W.J.) added tool room as built (June 1926 A.F.E. 3087).  
March 26, 1930: (H.M.J.) added concrete floor in stalls 16 to 20 inclusive instead 1 to 5 inclusive.  
February 18, 1936: (J.E.L.) added concrete floor in stalls 1, 2, 3, 4, 5.  
June 15, 1942: (F.A.B.) added 5" concrete floor in stalls 21-25 inclusive and section through pit (A.F.E. 63130).

An unnumbered drawing

September 14, 1944: 16' extension to stalls 16, 17, 18, 19 and 20.

Drawing #8381-27

September 1947: Drop table in stalls 16 and 17 (A.F.E. 75787).

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Revisions indicated at the bottom of drawing #8381-27

April 7, 1948: (F.A.B.) changed drop pit.  
May 11, 1948: (F.A.B.) added steel rolling door in rear wall in stall #16 and lintel over slide up door in tool room.  
May 24, 1948: (F.A.B.) added new concrete piers under 10 x 10 wood posts at drop pit.

Drawing #8381-39

March 6, 1952: Ventilating system in diesel section of Engine House (A.F.E. 82181).

Unnumbered drawing

April 1952: Lunch, locker and toilet facilities for engineers, firemen and roundhousemen in section #2 of roundhouse.

Drawing UF-1657

March 2, 1955: Engine exhaust smoke jack.

Drawing #8381-2

November 30, 1955: Lunch and locker facilities for engineers, firemen and roundhousemen in section #2 of engine house (A.F.E. 87207).

Revisions indicated at the bottom of drawing #8381-42

March 1, 1956: (L.G.H.) added fin radiators and ventilating unit and ducts.  
Jan. 18, 1957: (C.E.S.) filled pit, placed concrete slab, sliding door and 6' wide O.S. concrete runway at stall #11.

Drawing #8381-45

February 15, 1957: Exhaust system (#600 Clarage Centilator) for stalls 18, 19 and 20.

Drawing #3A-200-28

June 1958: Placement of automatic water softening plant and Nalco System (April 1957 A.F.E. 88913).

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- B. Historical Context: The Engine House at Jackson Street was built to replace the original 1881 roundhouse which had become too small for the shop activities of the growing railroad. The Engine House was a repair shop for steam powered locomotives but as diesel powered engines came into use the building was altered in order to accommodate repair of these new engines. In 1958, the Engine House at Jackson Street was phased out and locomotive repair was centralized at the Dale Street shops. The Engine House was sold to George Rutman who used it in his industrial steel container operation. At some time while Rutman owned the building, he leased it to the Post Office which used the building as a mail sorting facility. The building underwent many alterations during this period as it was made to serve the mail sorting function. Machines and equipment, remnants of the Post Office's occupation of the space remain in many of the bays of the Engine House. The building was recently sold to the Minnesota Transportation Museum. Plans are to restore the building to its original configuration for use as a museum.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural Character: The Engine House is part of a complex of buildings called the Jackson Street Shops. These shops are outstanding examples of railroad building from the turn of the century. The Engine House, known sometimes as a roundhouse, was a building that serviced the engines and was semicircular. The structure was added onto throughout the years to accommodate changes in engine sizes.
2. Condition of Fabric: The exterior brick masonry is in good condition, while the concrete block of the latest additions are in perfect condition because changes have been so recent. The roof leaks in several areas over the original structure; it also leaks over the loading docks. Interiors have been neglected and are in a general state of disrepair.

B. Description of the Exterior:

1. Overall Dimensions: The original structure was in a semi-circular shape divided into 25 bays 92' long in 10 degree intervals. Extensions of 18' and 16' were added to 5 bays, another 5 were cornered off, while 5 others were demolished. It is a one story structure with a basement portion under 5 bays.
2. Foundations: The original structure had stone foundations while the additions have reinforced concrete footings.

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3. Walls: Exterior walls are brick, painted; most original windows have been bricked in or filled with glass block. Where each bay turns to the next there is a pilaster. Brick is laid in a common bond with a header course every seventh course. Concrete block is laid in a running bond. Brick has been painted a buff color and the concrete block is unpainted.
4. Structural system framing: The original building has timber framing, using 10" x 10" columns. Later additions and alterations use steel framing.
5. Loading docks: Docks were added along the east side of the building, the northwest corner and the southwest corner; all are constructed with concrete block.
6. Openings:
  - a. Doorway/Doors: Original engine doors were wood. The garage doors of the southwest loading dock and the center fill-in are of wood. All other exterior doors are metal clad.
  - b. Windows: Most original windows have been filled in with brick or glass block.
7. Roof: The roof over the original structure is a composition roof with the higher portion having a  $1 \frac{5}{16}$ " in 12" rise and the lower portion having a  $1 \frac{1}{4}$ " in 12" rise. The raised portion at stall 16 is 2-ply cold process built up roofing on 2" x 6" tongue and groove boards. Later additions are flat and topped by a light aggregate except for loading docks which are also of composition.

C. Description of the Interior

1. Floor plans: The original interior was arranged in 25 locomotive repair bays radiating from a center turn table. Refer to measured drawings for subsequent changes.

2. Stairways:

There is one stairway inside the building in the west section which leads to an area over the docks. It consists of thirteen treads 11" x 2'9" with a rise of 7".

There is a concrete ramp from the bay housing stalls 16-20 that inclines to the bay housing stalls 21-25 and declines to the basement below stalls 21-25.

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Small ladders attached to the loading docks provide access to those areas on the exterior of the building.

A small attached metal staircase provides access to the southeast loading dock.

3. Flooring: The original dirt floor has been covered with concrete; all additions also have concrete floors.
4. Wall and ceiling finish: With the exception of an area in the bay housing stalls 6-10 (which has gypsum board partitions and a dropped gypsum board ceiling) all walls and ceilings consist of the exposed structure. In the main bays housing stalls 11-15, 16-20 and 21-25, the brick has been painted a light green; in the bay housing stalls 6-10 the area is painted green on the lower 4-1/2' and white above. In the addition housing the west docks and some office and miscellaneous spaces, the concrete block has been painted gray on the lower 5' and white above. In all areas except the west addition, the paint is badly peeling.
5. Openings:
  - a. Doorways/Doors: Most doors are 2-ply metal clad. Most of the openings in the building between bays, etc. are untrimmed openings without doors.
  - b. Windows: Most windows consist of an area of 7-5/8" square glass blocks--15 horizontal, 6 vertical, over an area of six-pane (2 over 3) horizontal casements. The original clerestory windows consisted of 12 ( 4 over 3) sash.
6. Mechanical equipment:
  - a. A steam boiler bearing the name The James Leffe and Company, Builders, Springfield, Ohio, is in the boiler room off of the bay housing stalls 11-15. There is a "low pressure steam heating boiler log" on the north wall of this room: The Hartford Steam Boiler Inspection and Insurance Company.
  - b. The ventilating system for the diesel section for stalls 21-25 is illustrated in drawing #8381-39.
  - c. Engine exhaust smoke jacks are illustrated in drawing #UF-1657.
  - d. The exhaust systems for stalls 18, 19, 20 is illustrated in drawing #8381-45, 46, 47.

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- e. The automatic water softening plant is illustrated in drawing #3A-200-28.
  - f. Lighting: All areas currently have ceiling hung fluorescent lighting. Although evidence of original lighting was not found, the monitor roof with lantern windows which has been covered over must have provided a great deal of natural illumination.
- D. Site: The building originally faced west; however, with the later additions, the building now has an east/west orientation. It may be approached from the east off of Pennsylvania Avenue or from the west by a road leading to the Jackson Street shops off of Arch Street. There are tracks to the north of the building and housing on the south side of Pennsylvania Avenue.

PART III. SOURCES OF INFORMATION

- A. Original Architectural Drawings: Original drawings for the 1907 Engine House are on file at the Great Northern Historical Society. The collection includes plans, sections and elevations of the original structure and some revisions.
- B. Early Views: The following photographs were found at the Division of Archives and Manuscripts: Neg. #W-8614, 1929, view of engine house doors; #W-8654, 1930, view of engine house doors; #13604, 1937, view of engine house; and #'s 13605, 13606, close up views of the engine house.
- C. Interviews: George Rutman, STAVOCO Industries, 1/31/85 (phone), former owner of Engine House; Gayle Bromander, Minnesota Transportation Museum, 1/31/85 (phone), 2/16/85 and 3/9/85 (in person at the Engine House), current owner.
- D. Bibliography:
  - 1. Primary sources and unpublished sources: Building permit files at the Building Inspector's Office, St. Paul, Minnesota; original drawings; interviews: Great Northern Railroad files at the Minnesota Historical Society; Minnesota Historical Society Photograph and map collections.

Jackson Street Roundhouse, A Home for the MTM  
Rausch-Chambers, Helen, "Jackson Street Railroad Shops"



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2. Secondary and published sources:  
Polk's City Directory, 1910

Prepared by:  
Rod Cox and Jeanne Dungey  
University of Minnesota  
March, 1985

#### PART IV. PROJECT INFORMATION

This project was prepared as a class project for Architecture 5142, Historic Building Research and Documentation, a class offered in the School of Architecture and Landscape Architecture at the University of Minnesota, Minneapolis, Minnesota. The class project was prepared under the direction of Professor Foster W. Dunwiddie and was funded by a grant from the State Historic Preservation Office of the Minnesota Historical Society, Saint Paul, Minnesota. Historical data compiled and measured drawings prepared by Rod Cox and Jeanne Dungey.